

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Peng Liang

Application No.:

Group Art Unit:

Filed: 10/02/2003

Examiner:

Title: METHODS AND COMPOSITIONS FOR  
PRODUCING SECRETED TRIMERIC RECEPTOR  
ANALOGS AND BIOLOGICALLY ACTIVE  
FUSION PROTEINS

Attorney Docket No.: 03-052-PL

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir or Madam:

Applicant petitions to make special his application relating to HIV/AIDS and recombinant DNA.

Applicant petitions to make special his application relating to HIV/AIDS. There is a great need to be able to create secreted homo-trimeric soluble receptors or biologically active proteins, which can have perfectly docked binding sites, hence higher affinity, to their naturally occurring homo-trimeric ligands, such as TNF family of cytokines and HIV coat proteins. Such trimeric receptor decoys theoretically should have a much higher affinity, than its dimeric counterparts, to their trimeric ligand. Such rationally designed soluble trimeric receptor analogs could significantly increase the clinical benefits as well as lower the amount or frequency of the drug injections for each patient.

Applicant further petitions to make special his application relating to recombinant DNA. Disclosed here is an invention that allows any soluble receptors or biologically

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active polypeptides to be made into trimeric forms as secreted proteins. The essence of the invention is to fuse any soluble receptors and biologically active proteins in-frame to the C-propeptide domain of fibrillar collagen, which is capable of self-trimerization, using recombinant DNA technology. The resulting fusion proteins when expressed in eukaryotic cells are secreted as soluble proteins essentially all in trimeric forms covalently strengthened by inter-molecular disulfate bonds formed among three C-propeptides.

Respectfully submitted,  
Lambert & Associates



Melissa Patangia  
Registration No. 52,098

92 State Street, 2nd Floor  
Boston, MA 02109  
(617) 720-0091  
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